GEOLOGICAL AND NATURAL HISTORY SURVEY OF CANADA
ALFRED R. C. SELWYN, C.M.G., LL.D., F.R.S., DIRECTOR.

PRELIMINARY REPORT

ON

AN EXPLORATION OF COUNTRY

BETWEEN

LAKE WINNIPEG AND HUDSON BAY.

BY

A. P. LOW, B.Ap.Sc.

PUBLISHED BY AUTHORITY OF PARLIAMENT.

Montreal:
DAWSON BROTHERS.
1887.

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To Alfred R. C. Selwyn, Esq., C.M.G., F.R.S., LL.D.,
Director Geological and Natural History Survey of Canada.

Sir,--I herewith beg to submit a Preliminary Report on my explorations of last season in the country between Lake Winnipeg and Hudson Bay.

In it I have merely mentioned the geological formations observed along the route followed. To define their probable distribution in the region, one or more seasons work will be required. I have great pleasure in tendering thanks to J. Wrigley, Esq., Chief Commissioner of the Hudson Bay Company, and all the officers of the Company, at the posts visited, for their kind hospitality and able assistance, to which, in a great measure, the success of the expedition is due.

I remain,
Sir,
Your obedient servant,
A. P. LOW.

Ottawa, February 24th, 1887.

PRELIMINARY REPORT

ON AN EXPLORATION OF COUNTRY FROM

LAKE WINNIPEG TO HUDSON BAY,

BETWEEN 88° 30′ AND 97° 30′ W. LONG.

I left Ottawa on the 10th of May, accompanied by Mr. J. M. Macoun as assistant and botanist. We proceeded to West Selkirk, in Manitoba, where we were detained eight days, awaiting the departure of a vessel which could take us up Lake Winnipeg. Departure.

We then secured passages in a small schooner, which sailed on the 21st of May, but which, owing to head winds, did not reach our starting point—the mouth of Berens River, half way up the lake on its eastern side—till the 28th of May.

The spring was exceptionally early, and the ice had, we were told, broken up fully a week earlier than usual.

At the Hudson Bay post, Mr. Flett informed us that large canoes, suitable for our expedition, could only be obtained at the Company's post on Family Lake, some distance up the river. We therefore purchased two small canoes in which to take a part of our provisions and outfit, and we engaged Indians, with three canoes, to take the rest up to Family Lake. All necessary arrangements having been completed, we left the mouth of the river late on the morning of the 31st, and the micrometer survey was carried as far as the first portage, eleven and a half miles. Commencement of Survey

The country near the river in this distance is made up of many low, hummocky, gneiss hills, which seldom rise twenty feet above the water, and are partly covered with a heavy clay soil. In the valleys and along the river banks the soil is thicker, and the Hudson Bay Company, and the Indians on the Reserve, grow good crops of potatoes and other roots. Little or no grain is raised, and the locality seems unfavorable for such crops, being exposed to the full sweep of the cold north-west winds that blow so frequently over Lake Winnipeg. The tree growth is small and poor, consisting of black spruce, aspen poplar, tamarac, white birch, banksian pine and balsam. None of

these attain a diameter of eighteen inches, and, branching near the ground, are mostly covered with knots and crooked, and of little value for lumber.

Up to the first portage, the river flows between rocky banks from ten to twenty feet high, alternating with low, swampy ground. The current is sluggish, the water deep and of a dark brown color, although comparatively free from suspended matter.

The Indian Reserve extends six miles up the river, its banks being dotted with log houses. The Methodist mission station consists of a good church, school house and parsonage.

Sturgeon are plentiful in the spring about the mouth of the river, and up it as far as the first fall.

On the 1st of June we did not leave camp, on account of rain, until 11 a.m., and we then made a portage of forty yards to pass a chute of nine feet, caused by a ledge of gneiss in the river. Three hundred yards further, another portage of twenty yards was made to pass a similar fall of three feet. From this point up to Family Lake the river's course is broken by a great number of small chutes, varying from two to forty feet in height, and all have to be passed by short portages; between the chutes there is little or no current in the river, and it somewhat resembles the locks and stretches of a canal. During the day six other chutes were passed, being respectively four, three, five, ten, and three feet high, with portages of fifty, thirty, eighty, forty and thirty yards, and the total distance surveyed was nine and one-quarter miles. In this distance the banks are less rocky, with more good land and heavier timber. Some white spruce being eighteen inches in diameter, with poplar and banksian pine of twelve to fifteen inches.

Character of Berens River.

From the second to the fifth of June, we continued our ascent of the river, and passed twenty-seven falls and rapids, entailing as many short portages in a distance of fifty-one miles, the country being rocky, with poor soil and small trees. Here the route leaves the river and crosses a short portage to a small branch, which it follows for four and a half miles to where it re-joins the river at a small lake, and thus a very rapid and difficult stretch of the main river is avoided. A fall of six feet connects this lake with another, passing through which, a distance of four miles, the river is again reached. From here to the outlet of Family Lake the distance is eleven miles. Three portages occur in the interval to pass falls of eight, ten and forty feet, the last and highest being just at the outlet of the lake. Family Lake is triangular in shape, having irregular sides of about ten miles in length. The river comes in at the north-east angle, where also is the Hudson Bay Company's post. It is proposed to survey a

Family Lake.

reserve in the vicinity for the Indians who trade at the post. Two streams flow out of the lake, the Berens River at the western angle and the Pigeon River at the southern. These streams, after following irregularly parallel courses, enter Lake Winnipeg only six miles apart. Considerable areas of good land occur along the shores of the lake, although they are often very rocky.

The trees are somewhat larger than those along the river, and at the Hudson Bay Company's post good crops of potatoes are grown.

The total length of our measured line from Lake Winnipeg to the inlet is one hundred and two miles, with a general course of S. 7° E. The greater part of the timber has been destroyed by frequent fires. On the 9th of June, having exchanged our small canoes for larger ones at the Hudson Bay post, and engaged two Indians to take a load of provisions as far as Deer Lake, on the Severn River, we continued our ascent of the Berens River. A fall and rapid of thirty-five feet, passed by a portage one-quarter of a mile long, occurs one mile from the lake. Above this the river is deep and rapid for one mile, when it widens into Back or Fishing Lake. This lake is nine miles long from north to south, and from two to four miles wide, with a large number of islands along the eastern side. A large stream, called the Mattawa River, which rises in the neighborhood of Cat Lake, enters on the east side. The lake is surrounded by hills, rising twenty to forty feet above its level; these are covered with a growth of spruce, poplar, birch and tamarac, much of which has, however, been burnt by recent fires. Ascending between the islands, we left the lake at its northern end by a small stream, which flows in a very crooked course through low, swampy ground, with protruding bosses of gneiss, the whole covered with a small growth of black spruce and tamarac. After following this stream four miles, Fisher Lake was reached and traversed, a distance of three miles, to its upper end; thence the river was again followed, through four small unnamed lakes, to the height of land between the Poplar and Berens rivers. The country along the route, with the exception of some patches of bog, is rocky, with very little soil. The trees do not exceed eight inches in diameter, and are chiefly banksian pine, black spruce and tamarac, with some birch and poplar. Crossing the height of land by a portage two hundred yards long, the route followed a branch of the Poplar River, passing through three small lakes to Big Jack-fish Lake, a large body of water on the main branch of the Poplar River. After ascending the river seven miles, in an easterly direction, a small northern branch was followed, leading, in a crooked course, through three small lakes, to the height of land dividing the waters flowing directly into Hudson Bay from those falling into Lake Winnipeg. This point was

Grand rapid.

Poor land.

Small timber.

not reached till the 17th of June, much delay having been occasioned by the low state of the water in the small streams; four days were also lost on account of rain, it being impossible to carry on a micrometer survey in wet weather. The distance from Family Lake to this height of land is sixty-six and a half miles by the route followed, the course being a few degrees east of north.

Height of land portage.

The height of land portage, six hundred and seventy-five yards long, passes through a gulley between hills from fifty to seventy-five feet high, and ends on the north side at a small lake on the headwaters of the middle branch of the Severn River. This lake lies about fifty feet below that at the other end of the portage, and shows that the land on the north side falls abruptly. The dividing ridge stretches away in a south-easterly direction, rising from fifty to one hundred and fifty feet above the water surface.

Head of Severn River.

The first lake or pond, one-quarter of a mile long, empties into a second by a brook too small and shallow to float canoes, so that a portage of thirty-five yards has to be made between the lakes. The second lake, three-quarters of a mile in length, empties into Black Birch Lake by a brook, having six feet fall; passed by making a portage one hundred and ten yards long.

We reached Black Birch Lake about its middle, and then coasted its shores in an easterly direction for three miles to its outlet. The shores rise from thirty to fifty feet almost perpendicularly above the lake; the trees are larger than those last described, but nearly seven-eighths of the timber has been burnt. Turning north down the outlet, the stream, varying in width from ten yards at the falls and rapids to half a mile, was followed ten miles to Deer Lake through a rough, barren and rocky country, almost wholly burnt; chutes of twelve, eight and six feet were passed in this distance, and the entrance of Deer Lake was reached on the 18th of June. Here, on a small island, we found the provisions forwarded from Family Lake, safely stored.

Burnt timber.

Deer Lake.

Having transferred them to our canoes, we continued the survey along the north side of the lake, for nine miles, to the supposed outlet, which, however, proved to be an inflowing stream. As we were without a guide, we were obliged to coast carefully along the shore and around each small bay. Thus the north shore of the lake was surveyed to its extreme end, where, at a distance of forty miles from the supposed outlet, another large stream was found flowing in. Knowing that the chances were greatly in favor of the outlet being on the north side, and thinking that it might have been passed, we carefully retraced the coast for twelve miles, and succeeded in finding the outlet in a small bay. It passed through a narrow cleft in a high rock, and was not visible, even when close to its entrance. Deer Lake is a long, narrow

body of water, surrounded by rocky hills, rising from fifty to two hundred feet above the lake. These hills are rounded, and appear to run parallel to the range forming the height of land. The lake runs in a general course of N. 7° E. Its greatest length is about forty-five miles, with a breadth varying from one to four miles. Three deep bays indent its eastern end, the entrances into which are narrow and easily overlooked, unless the shore is very closely followed. The outlet is in the north bay, four miles from its entrance. Besides the bays above mentioned, several large and many smaller lateral bays deeply indent the shores, which are generally steep and rocky, and the lake itself is full of rocky islands rising from its clear waters. The surrounding hills have been almost wholly burnt by fires of various dates, and present all the different appearances of a burnt country, from the standing blackened trunks left by recent burning, to the small second growth of poplar and banksian pine of earlier fires. The soil is very thin and the timber correspondingly poor, except on a few low points, where some white spruce, balsam and poplar exceed fifteen inches in diameter. The river runs in a northerly direction, with a swift current, for one mile, and then expands into a small lake, one mile beyond which it turns sharply to the west and contracts, flowing with a rapid current for five miles between high, rocky banks covered only with dry moss and a few stunted black spruce, birch and banksian pine, all less than four inches in diameter. In this distance there are five chutes, which together give forty-nine feet fall; or sixteen, ten, six, five and twelve feet. Here the river again turns north, and, spreading out, flows with a steady current for eighteen miles to Favorable Lake, but interrupted by chutes of three, twenty and twelve feet and a few small rapids. As the river descends, the surrounding country gradually becomes smoother and the timber larger until within three miles of the lake, when the stream passes through low, swampy land, covered with thick, wet moss and a small growth of black spruce and tamarac. We entered the lake at its south-west corner, and followed the north shore for nine and a half miles to the end of a point; here the lake took a short turn to the northward, and again stretched out east and west. Supposing the outlet to be to the eastward, we surveyed to the end of the lake in that direction, seven and a quarter miles, and found two small streams flowing in. Returning to the point, we proceeded westward six miles to a small channel from the north, and discovered that the point was the end of a peninsula about seven miles long, joined to the main shore by a narrow neck of sand, over which a small portage might have been made and fifteen miles of paddling avoided. After passing through this channel one mile, the lake again expanded, and we then followed the west shore nine miles,

Deep bays.

Some good soil.

Rapid fall of river.

Favorable Lake

and found the outlet in the north-west angle, where two bays were seen stretching away to the eastward. Favorable Lake is very irregular in shape, the two portions forming a T, the stem of which lies north and south, with a crooked head stretching irregularly east and west. The width varies from two to five miles. Hills from fifty to one hundred and fifty feet high surround the lake, more than half the timber on which has been burnt. Along the shores there are considerable areas of good land, the best being on the peninsula and along the southern part of the lake, where the underlying rocks are hornblendic and chloritic schists; the northern portion is more barren, the soil resting on gneiss. The soil is a fine, rich, sandy loam, quite suitable for growing good crops, and summer frosts seem to be the only drawback to successful agriculture. These are said not to occur at Trout Lake, though situated further to the north-eastward. The trees around Favorable Lake consist of white and black spruce, aspen and balsam poplar, white birch, balsam and tamarac, many of which exceed eighteen inches in diamater. Sturgeon are plentiful in the lake; it is remarkably free from islands; the water is a dirty light yellow color, and not deep. At the end of the peninsula the foundations of several old houses were discovered, out of which trees twelve inches in diameter were growing. These ruins evidently mark the site of some old Hudson Bay Company, or more probably North-west Company trading post. Nothing was known about it at the Hudson Bay Company's post we visited. Favorable Lake was left on the 29th of June, and at two miles due north a fall of eight feet was reached; this fall is formed by a horizontal ledge of gneiss, which closely resembles a mill-dam. Three-quarters of a mile further on, a portage of seventy-five yards was made to pass a chute of twenty-five feet. Beyond this, the river flows in the same northerly course seven miles, when another chute of fifteen feet was reached.

Good soil and timber.

Old trading post.

From here the stream bends gradually westward for ten miles, then turns sharply north for five miles, and again bends slightly north of east for ten and a half miles. Here the river apparently forked; thinking that the north branch, which looked the larger, the correct road, we passed up it and entered a lake, only to find, after making a survey of its shore, that we were once more at the place we entered by, that no other outlet existed, and that we had gone ten miles out of our way. Continuing down the river seven miles due east, a sharp turn to the south was made, and passing four and a half miles along this course, Musk-rat Dam Lake was entered.

Slow current.

For the entire distance between Favorable Lake and this lake, the river, with the exception of the three falls mentioned, flows with an imperceptible current between low, muddy banks, covered along the

edges with grass and weeds, and has an average breadth of two hundred feet. The water is of a whitish-yellow color, and is highly charged with suspended matter.

The surrounding country is a vast, level swamp, broken only by a few knobs of gneiss, that rise from ten to fifty feet above the general surface. The swamp is covered with moss, and supports a small growth of black spruce and tamarac; better timber growing on and around the hills. Musk-rat Dam Lake was entered July 3rd, on its north side, some distaece from the west end. Owing to the smoky state of the atmosphere, and the numerous islands which obstruct the view, neither the west end nor the south shore were seen, and so the exact size of the lake is unknown. We coasted along the north shore to the south-eastern angle, a distance of nineteen and a half miles, passing many islands of various sizes. Where the river enters the lake, it has deposited much of the matter it carries, and formed a long point of low marsh, now covered with grasses and small willows, and surrounding several small, rocky islands; the name of the lake is probably due to this feature. Elsewhere, the shore rises from thirty to seventy-five feet above the water, the greater part consisting of clay and loam soil with several rocky points and outlying islands. The timber, with the exception of that growing on the points and islands, corresponds in size and variety to that described around Favorable Lake. The islands, many of which are quite large, are rocky, and covered chiefly with a dense growth of black spruce. Several extensive fires were burning around the lake while we were on it, and the smoke was so thick that it caused considerable delay in the work of surveying. We left Musk-rat Dam Lake at its south-east angle, and followed the river in a S. 30° E. course for four miles to Sandy Lake.

Swamps.

Long points.

Good land.

Fires.

This lake was also entered on its north side at some distance from the western end, and the shore followed to the eastern extremity, a distance of forty-three and a half miles. This is probably the largest body of water passed through on the route, its extreme length and breadth being unknown, as the surface is covered by innumerable islands, so close together that a view of the opposite shore could not be had.

Sandy Lake.

The water is turbid and white in color. The shore is higher and more rocky than that of Musk-rat Dam Lake, but much good land, and many trees of white spruce, poplar, birch and balsam, were seen, exceeding eighteen inches in diameter. Indeed, the greater part of the land around these lakes would make good farms.

High rocky shores.

Severn Lake lies north-east of Sandy Lake, and distant from it one hundred and fourteen miles by the river. Sandy Lake was left on the 8th of July. The river passes with a sluggish current between low

hills, mostly burnt; and at six and three-quarter miles, a chute of eighteen feet was passed by a portage one hundred and fifty yards long. Beyond this, the river becomes narrow and crooked, with a swift current, passing low, rounded and rather rocky hills, with good soil between, supporting a growth of black and white spruce, tamarac, poplar and birch, slightly smaller than those seen around the lakes.

River narrow and crooked.

Forty-two miles from the portage, the river widens out into two lakes, which, together, are sixteen miles long and not above two miles broad, both being dotted with many small islands. The surrounding country is almost flat, with good timber and soil. Beyond this, as far as Severn Lake, over 114 miles north-east from Sandy Lake, the river flows with a swift current, broken by several rapids and falls, entailing six portages.

Flat country.

Cut banks, from five to ten feet high, composed chiefly of a boulder-clay, are now seen. The soil and timber become poorer, and good trees grow only on the islands, the shore having a thick growth of black spruce, poplar and tamarac of small size.

Cut banks.

While camped on the last portage above Severn Lake, an old Indian with his wife passed in a canoe, the first persons seen since leaving Family Lake. As we had but an imperfect idea of our exact position, we hurried after and overtook them on an island in the lake, and learnt that we were on Severn Lake, and that, by a portage route, the Hudson Bay Company's post on Trout Lake was distant about three days' journey. As our provisions were running short, not enough remaining to carry the survey to the mouth of the river, we decided to make for Trout Lake. Accordingly, we crossed the lake in a south-east direction, and in nine miles reached the portage.

The shores and the numerous islands of Severn Lake are all low and swampy, covered chiefly with black spruce and tamarac. The portage by which the height of land between the Main and Fawn branches of the Severn River is passed, is one and a quarter miles long, through low, swampy ground, with a rocky ridge at the east end. Here a small lake and another portage of 400 yards brought us to three small lakes, connected by a small stream; leaving the stream at the third lake, three portages of 350, 760 and 375 yards, are passed with two intervening small lakes, the stream being again reached at the end of the third portage. Descending it two and a half miles, Little Trout Lake, four miles long by one broad, was entered and passed through to its east end. Following its outlet four miles, Trout Lake was reached July 19th. The general course of the route was due east, through low, swampy country, out of which rise a few low, rocky hills almost destitute of soil, the whole covered with small trees of black spruce, banksian pine and tamarac, few exceeding six inches in

Severn Lake.

Portage route to Trout Lake.

Low swampy country.

diameter two feet from the ground. Trout Lake is irregularly oval in shape, forty miles long from east to west, and nowhere more than twenty miles wide. Its shores are generally low and swampy, with some rocky points, the highest land being towards the west and south. Along the north side are several large islands and numerous smaller, rocky ones. The prevailing trees are black spruce, with tamarac, aspen poplar, white spruce and birch, a few being eighteen inches in diameter. Large islands.

The water of the lake is remarkably clear, cold and deep, and is abundantly stocked with large white fish and lake trout, which form the principal food of the Indians and Hudson Bay Company's people living around the lake. Fish.

The Hudson Bay Company's post is situated on one of the larger islands, twelve miles from the east end. Here also is a church, supported by the Church Missionary Society of England, and the services are conducted by a native missionary. Church.

Nearly 500 Indians trade at this post, but they do not all belong to the post, part being a roaming population, some of whom belong to Martin's Falls and Cat Lake posts, on the Albany River, while others come from York, Severn and Island Lake. These Indians speak a language made up chiefly of Cree words, with a mixture of the Sautaux dialects; they are all supposed to be Christians, although many of them still believe in the power and charms of the medicine men. Indians.

Mr. Tait, the officer in charge of the post, says that good crops of peas, potatoes and other roots are raised here yearly, and are very rarely injured by summer frosts. This being the case, the country to the westward, between Severn and Sandy lakes, which is more favorably situated, having all the appearance of a better climate and a richer soil, must undoubtedly be well suited for agriculture, and will at some future time prove valuable land for settlement. At the Hudson Bay Post both our canoes were repaired; and on the 22nd of July, after securing the necessary provisions for the trip to the mouth of the river, and having determined the latitude of the place, we proceeded along the north shore to the north-east corner of the lake, where the Fawn branch of the Severn River flows out. This river, which varies from thirty to six hundred yards in width, was followed for eleven miles due north, where a small lake, three miles wide, was crossed. From here, for fifty miles, the river, with an average breadth of thirty yards, flows N.N.E., with a rapid current between low banks. Twenty-four rapids and chutes, caused by ledges of gneiss crossing the stream, occur in the distance, the greater number of which have to be passed by portages in ascending the stream, although only eight were made in descending. Crops uninjured by frost. Fawn River. Rapids.

At the rapids the river usually spreads out, and flows in several shallow channels between a number of small islands. This greatly increases the danger of damaging the canoes from striking against rocks on the bottom while running down stream. In its upper part the channel is greatly obstructed by large boulders strewn over the bottom, often rising to within a few inches of the surface, a good look-out being necessary to keep clear of them where the current is slow, as there is then no sign to show their position.

Obstruction caused by boulders.

Throughout this distance the surrounding country slopes towards the north and east with the river, which flows but a few feet below the general surface. Except the few small ridges of gneiss, the whole is swamp, covered with thick, wet moss, and supporting a growth of small black spruce and tamarac, with a few poplar clumps.

Swamp.

On the islands is a better growth of white and black spruce, poplar and tamarac; the last white birch was seen near the end of this course. This region has a bleak, barren look, with soil totally unfit for cultivation, being wet without the possibility of drainage. Below the last chute the character of the river changes; it now flows with a swift current between banks cut in the drift sands and clays, but no rapids necessitating portages occur until within a few miles of the Forks.

Northern limit of white birch.

The country above the river valley is comparatively flat and swampy, with clay subsoil overlaid by sand; the trees are chiefly black spruce and tamarac of small size, the greater part of which have been burnt. These characteristics prevail all the way to the mouth of the river, the whole country being practically useless.

Character of surrounding country.

The only timber large enough for small buildings grows on the islands and in the bottom of the river valley, where the soil is better and the high banks form a protection from the cold winds. Below the last chute the river first runs N. 50° E. for seventeen miles, then in a general course a few degrees south of east, twelve miles, to the Otter River, a large branch flowing from the south-east. For this distance the sloping banks of the river vary from ten to fifty feet high, and covered to the water's edge with a thick growth of small willows.

Otter River.

Below the Otter branch the river suddenly expands, being almost fifty yards wide, and gradually increasing with the descent; the channel is very shallow and interrupted by a great number of bars. The water, which on leaving Trout Lake was remarkably clear, gradually becomes discolored by the washing down of the clay banks of the river, and the dirty waters of small brooks that flow in.

The valley now becomes deeper, the banks rising from fifty to one hundred feet, the upper part being cut almost perpendicular, with the lower part sloping gradually to the water's edge.

High banks.

The willows do not grow so thick along the banks, which afford good tracking paths, used by the Indians in towing the boats up stream. Marks on the trees along the banks show that in spring the ice passes along fully fifteen feet above the summer water level. Good tracking paths.

From the Otter River the general course is about north-east for thirty-eight miles, then N. 30° E. twenty-one miles to the Picticiow River, flowing in from the eastward. Here a turn is taken westward, and the stream passes from bank to bank in a valley about half a mile wide, with a general course of N. 35° W. for fifty-six miles to the forks of the Severn. Six miles above this point beds of limestone rise from under the clay banks, and in crossing the stream cause several heavy rapids. Heavy rapids.

The Severn River, below the junction of the Fawn, is about half a mile wide. Beyond this, as far as its mouth, it varies from one quarter to one mile in width, the average being one-third of a mile. The cut banks are from thirty to two hundred feet high, gradually falling as the sea is approached. The channel is very shallow, and in places greatly obstructed by low gravel beds and sand bars. From the forks the general course is N.E. for sixteen miles, then N. 10° E. for twenty-three, where a fall of thirty feet, called the Limestone Rapid, occurs in one mile. This is caused by beds of limestone crossing the stream, forming a number of small islands, between which the river pours in heavy rapids. Obstructed channel.

The portage by which this obstruction is passed is on the west bank and over the bare limestone rock.

Besides this rapid there are several smaller ones, due to the same cause, but none are heavy enough to necessitate portages.

Below the Limestone Rapid the river again flows north-east to the sea, a distance of twenty-eight miles. Many large islands divide the stream into different channels for several miles from its mouth. Large islands.

We arrived at Fort Severn, situated on the west bank about four miles from the sea, on the 6th of August; thus finishing the micrometer survey from Lake Winnipeg to Hudson Bay.

Fort Severn is a small trading post of the Hudson Bay Company, resorted to by a few Indian families, the majority of whom live along the coast, making their hunts on the small rivers flowing into the bay, and living chiefly on geese, which are killed in great numbers in the spring and fall, while on their way to and from the breeding grounds of the north. The soil around the post is a heavy clay and very swampy. The climate is so cold and the season so short that nothing but a few small turnips are with difficulty grown here. On August 8th we picked strawberries on the clearings around the post; at that time they were only beginning to ripen. Fort Severn. Poor soil and cold climate.

It was the intention to return up the river to Severn Lake, from there to go by Trout Lake across the height of land to Cat Lake, and thence to Rat Portage; but on reaching Fort Severn the canoes were found to be so worn out as to make it impossible to return in them, and being unable to procure anything suitable for the trip at Fort Severn, we were obliged to coast along shore to York Factory.

This we attempted to do in our canoes, and, leaving Fort Severn August 10th, in two days had reached Goose River, forty miles on the way. Here we were delayed by a heavy gale from the north-west, which continued for three days. On the second day a violent gust lifted the larger canoe over the stakes driven in the ground to secure it, and, rolling it over the ground, threw it against one of the tents, breaking it beyond repair. I immediately sent Mr. Macoun, with one man, on foot, back to the post with a request to send a boat and men enough to take us to York. They returned on the third day with a small whale boat and two Indians as guides.

Hudson Bay.

Embarking, we coasted along shore, being greatly delayed by head winds, and reached York Factory on the 23rd of August, without other accident than the loss of our other canoe, which broke adrift from the boat while anchored off one night in a gale.

York Factory.

The distance between York and Severn is about 200 miles. The coast is quite flat and low, and is formed, for a considerable distance back from high water mark, of parallel ridges of gravel, from one to four hundred yards apart, the space between being filled up with sand and mud, and dotted with innumerable small lakes or ponds, the water of which is brackish behind the outer ridges, but quite fresh, clear and cold farther inland.

Character of the coast.

These ridges are each a few inches higher than the next nearer the sea, and drift wood is seen on each, showing more signs of decay on the inner than on the outer banks.

This would tend to show that in this part of Hudson Bay the shores are slowly rising, as has been noted by other observers on other portions of the northern coasts.

Evidence of the shores uprising.

The ebb and flow of the tide is between four and six feet. At low tide the water retreats a long way, exposing great sand and mud flats, with gravel ridges mostly parallel to the shore, and in many places thickly strewn with large boulders. From the mouth of the Severn to near Cape Tatnam no trees are seen from the shore; beyond this small black spruce come to within a mile or so of the water. The distance of the trees from the shore is due to the unfavorable soil rather than climatic influences. Between high water and the tree line the sand and gravel are almost bare, while the mud between the ridges is covered with a rich growth of grasses, affording fine feeding grounds.

Absence of trees.

Being unable to obtain canoes at York, we were obliged to travel in a heavy flat-bottomed boat. Leaving York August 26th, Norway House, at the head of Lake Winnipeg, was not reached until September 20th, great delay being experienced owing to the very low state of the water in the Hayes River and its branches. At Norway House our boat was exchanged for a lighter one, in which we coasted down the east shore of Lake Winnipeg, but were so delayed by rough weather that Selkirk was not reached until October 13th and Ottawa four days later. Return journey

GEOLOGICAL NOTES.

ARCHÆAN.

A.—Laurentian.

With the exception of some small bands of Huronian, the Laurentian rocks occupy the whole area of country between Lake Winnipeg and Trout Lake, and probably extend much farther to the eastward. Distribution.

Their northern limit on the Fawn River was not exactly located, the rocks being covered with drift, but it lies somewhere between the last chute on its upper portion and the limestone exposures near the forks; from the physical features of the valley, it is supposed to be near the former point. The rocks consist chiefly of the characteristic red micaceous gneiss, along with grey varieties, and also hornblendic gneisses. No limestones were noted. Character.

B.—Huronian.

The Huronian rocks were first observed on Favorable Lake, where they consist of chloritic and altered hornblende rocks, with talc and hydro-mica schists. The same band, presumably, was seen on Sandy Lake, and below it on the Severn River. The rocks in several places are highly magnetic, and probably contain large quantities of iron ore, both disseminated in small crystals through the rock and in large masses. Another band was met with at Trout Lake, in connection with a large mass of eruptive rocks. Iron.

Owing to the extent of the country covered in one short season, no strict investigation of these rocks could be undertaken, and it remains for another season to examine them carefully, both as regards their mineral characters and lithological relations.

Palæozoic.

Cambro-Silurian and Silurian.

Age. The limestones of the Severn and Fawn Rivers, as roughly determined from the fossils collected, are not older than the Galena, and may be as new as the Niagara, more investigation is, however, required to fix their precise horizon.

Character. The rock is a coarse yellowish-white dolomitic limestone, closely resembling that of Lake Winnipeg. It lies almost flat, being broken only by long, low anticlines and synclines. At the Limestone Rapids of the Severn, where it is more contorted than usual, it rises in a number of low domes, closely resembling a sheet of letter paper when dampened. The total thickness of the beds exposed does not exceed one hundred feet.

Post Tertiary.

Drift.

Evidence of ice action. From Lake Winnipeg to Hudson Bay, almost all exposed rock surfaces exhibit distinct evidence of ice action, being strongly marked with glacial striæ, which vary in direction but a few degrees on either side of north-east, showing that the drift was from that quarter. Scattered all over the surface of the country are rounded boulders, many of great size and evidently far-travelled.

Drift. The Severn and Fawn Rivers, for over 200 miles from their mouths, have cut valleys into the Post Tertiary deposits. As seen in the banks of these streams, where sections of 200 feet are obtained, the top beds are composed of a light sandy clay, containing many boulders of limestone, gneiss, red jasper and green chloritic and epidotic rocks. Below these are thin sandy beds, holding a large number of small boulders; while the lowest and thickest beds are made up of a heavy blue clay, comparatively free from boulders.

Fossils. The following fossils were collected on the Fawn River, a short distance from the forks:—

Rhynchonella psittacea, Chemnitz.
Cardium Islandicum, Chemnitz. (=*C. ciliatum*, Fabr.)
Macoma calcarea, Chemnitz.
Mya truncata, L.
Saxicava pholadis, L. (=*S. rugosa*, Low.)
Buccinum tenue, Gray.
Trophon clatheatus, L.
And a small *Balanus*.

Botanical Notes.

It has been deemed inadvisable to publish with this report a list of the plants collected, as many species will probably be added during the next season, and after the country has been thoroughly explored a complete list will be published. A number of species were collected that were new to this portion of Canada and a few that are extremely rare. Among the most interesting may be mentioned *Aquilegia brevis-* Rare species.
tyla, Hook. in two localities on the Severn River; *Nymphœa odorata* Ait. *Var. minor*, Sims, growing in profusion between Severn and Trout Lakes. *Sisymbrium humile*, C. A. Meyer, was found a short distance from the junction of the Fawn and Severn Rivers, growing in gravelly soil; and along the coast, between Fort Severn and York Factory specimens were collected of a species supposed by Watson to be *Sisymbrium humifusum*, Hook., and has been so named provisionally by him. This species has not been found before on this continent, although reported from Greenland.

A peculiar form of *Linum perenne*, L., with white flowers and of procumbent habit was noted in one locality along the coast. Although supposed to be rare, *Saxifraga Hirculus* L., grew in great abundance between Severn and York. Three specimens of *Cnicus Drummondii*, Gr., var. *acaulescens*, Gr., were collected along the Lower Severn, not before noticed east of the Saskatchewan. *Chrysanthemum arcticum*, L., and *Matricaria inodora*, L., var. *nana*, grow as far south as the mouth of the Severn. A form of *Primula*, that appears to be intermediate between *P. farinosa*, L., and *P. Mistassinica*, Mx., but placed by Watson with the latter species, was found growing along the coast below high water mark. *Scheuchzeria palustris*, L., is of frequent occurrence throughout the country. *Arctophila Laestadii*, Rupt., a rare and beautiful species of grass, recorded but once before, is quite common along the coast.

APPENDIX.

METEOROLOGICAL OBSERVATIONS TAKEN BY J. M. MACOUN ON THE ROUTE FROM LAKE WINNIPEG TO FORT SEVERN, BETWEEN FORT SEVERN AND YORK FACTORY AND FROM YORK FACTORY TO LAKE WINNIPEG.

The barometical readings are those of a small aneroid.
The temperature is stated in degrees Farenheit.
The force of the wind is estimated according to Beaufort's scale. The proportion of sky covered by clouds is estimated on a scale of 0 to 10, 0 being a cloudless sky, 10 an overcast sky. The character of the clouds is denoted by the usual letter or combination of letters referring to Howard's classification.

PLACE.	Date.	Thermometer.			Minimum.	Barometer.			Wind.						Weather.			Remarks.
									Direction.			Force.						
	June	7	2	9		7	2	9	7	2	9	7	2	9	7	2	9	
Berens River, Lat. 52° 19'	1	46	....	48	42	29.54	29.56	29.54	W.	W.	0.	3	3	0	R.	5 K.S.	10 K.S.	Squalls with rain all day.
Berens River	2	42	....	45	32	29.57	29.56	29.28	N.W.	W.	W.	1	4	1	C.	C.	C.	Strong wind, clear.
Berens River	3	42	....	58	32	29.46	29.25	29.27	W.	W.	W.	1	3	1	C.	5 K.S.	5 K.S.	
Berens River	4	58	....	64	52	29.36	29.36	29.32	N.W.	N.	N.	3	3	1	2 K.S.	C.	C.	Thunder storm during night.
Berens River	5	46	....	....	46	29.28	29.20	29.20	0.	0.	N.	0	0	3	C.	R.	C.	Rain from 12 to 3.30 p.m.
Berens River	6	56	....	....	55	.....	.....	.....	0.	.....	.....	0	..	..	C.	.....	.....	
Family Lake, Lat. 52° 01'	7	64	....	....	46	.....	.....	.....	E.	.....	S.	1	..	3	C.	.....	6 K.S.	
Family Lake	8	....	....	....	..	.....	29.06	.....	.....	E.	.....	..	1	..	.....	10 K.S.	.....	Overcast all day.
Family Lake	9	....	....	60	45	.....	29.11	.....	.....	S.	S.	..	1	1	.....	2 K.S.	C.	Very warm during day.
Family Lake	10	60	63	63	50	29.04	29.08	28.94	S.E.	S E.	S.E.	1	1	1	R.	R.	R.	
Family Lake	11	58	....	....	55	28.95	.....	.....	0.	.....	.....	0	..	..	5 K.S.	.....	.....	
Upper Berens River	12	68	75	60	59	28.88	28.86	28.84	S.E.	S.E.	0.	2	2	0	R.	5 K.S.	C.	Light rain in morning.
Upper Berens River	13	58	60	57	56	28.86	28.90	29.02	S.E.	S.E.	S.E.	3	3	1	R.	R.	R.	Rain all day.
Upper Berens River	14	56	59	51	48	28.81	27.49	27.41	W.	W.	0.	1	1	0	10 K.S.	4 K.S.	C.	Cloudy, threatening until noon.
Upper Berens River	15	60	65	55	45	28.41	28.35	28.34	W.	W.	W.	1	3	1	C.	7 K.S.	9 K.S.	Light showers during afternoon
Poplar River	16	46	63	55	40	28.45	28.71	28.73	N.	N.	N.	2	2	2	8 K.S.	10 K.S.	6 K.S.	Overcast all day.
Height of Land, Lat. 52° 24'	17	45	59	55	35	28.72	29.46	29.48	N.	N.	0.	2	1	0	5 K.S.	4 K.S.	C.	.
Black Birch Lake	18	25	68	60	40	2.78	2.76	28.68	S. W.	S.W.	0.	1	2	0	7 K.S.	6 K.S.	C.	
Deer Lake	19	50	61	56	42	29.06	28.98	29.00	W.	S.W.	E.	1	1	1	7 K.S.	R.	R.	Began to rain 10 a.m.
Deer Lake	20	58	66	57	55	28.54	28.35	28.97	0.	N.E.	N.W.	0	2	2	R.	R.	8 K.S.	Ceased raining 8 p.m.
Deer Lake, Lat. 52° 44'	21	56	74	65	46	28.80	28.73	28.76	N.W.	N.E.	0.	1	1	0	3 K.S.	C.	C.	

Deer Lake	22	60	75	65	55	28.91	28.91	28.93	S.E.	N.E.	0.	1	1	0	C.	C.	C.	
Deer Lake	23	65	85	63	55	28.91	28.85	28.78	S.E.	S.E.	0.	1	1	0	C.	3 K.S.	C.	
Deer Lake	24	65	79	60	55	28.78	28.62	28.62	S.	S.	S.	1	2	1	C.	8 K.S.	5 K.S.	
Severn River	25	65	80	63	58	28.74	28.85	28.97	S.E.	N.	N.	1	1	1	R.	7 K.S.	C.	Light showers at intervals during day.
Favorable Lake	26	64	78	60	58	28.9	29 01	29.02	S.E.	E.	0.	1	2	0	C.	C.	C.	
Favorable Lake	27	60	79	68	52	29.11	29.10	28.99	S.	S.	W.	1	2	1	C.	2 K.S.	5 K.S.	
Favorable Lake	28	68	77	69	61	29.02	29.00	28.94	W.	S.W.	0.	3	2	0	Smoke.	Smoke.	Smoke.	
Severn River	29	64	74	68	56	29.04	29.00	28 85	W.	W.	S.W.	1	3	1	Smoke.	Smoke.	Smoke.	
Lost Lake, Lat. 53° 16′	30	68	73	58	65	28.89	28.81	28.79	S.W.	S.W.	S.W.	2	3	1	Smoke.	Smoke.	Smoke.	
	July.																	
Muskrat Dam Lake	1	60	65	55	54	28.74	28.75	28.75	0.	0.	E.	0	0	2	R.	R.	R.	Began to rain 6 a.m.
Muskrat Dam Lake	2	65	73	65	58	28.73	28.60	28.58	S.W.	S.W.	S.W.	2	3	2	C.	C.	C.	
Muskrat Dam Lake	3	64	74	67	60	28.65	28.65	28.65	S.W.	S.W.	S.W.	3	3	1	C.	2 K.S.	C.	
Muskrat Dam Lake	4	61	78	68	54	28.75	28.76	28.59	S.	S.	S.E.	1	2	1	4 K.S.	6 K.S.	8 K.S.	Heavy gale from the south, beginning about 9.30, accompanied by very little rain. Lasted 1 hour.
Sandy Lake	5	62	77	69	58	28.65	28.67	28.73	S.	W.	N.	1	1	1	3 K.S,	Smoke.	Smoke.	Began to rain 11 p.m.
Sandy Lake, Lat. 53° 08′	6	64	72	63	61	28.88	29.00	29.09	N.	S.	W.	2	1	1	9 K.S.	9 K.S.	C.	
Sandy Lake	7	64	71	68	59	29.24	29.10	29.04	E.	E.	E.	2	1	1	9 K.S.	C.	C.	Fog until 9 a.m.
Sandy Lake	8	61	55	55	55	29.04	29.01	28.98	E.	E.	E.	1	2	2	9 K.S.	R.	C.	Began to rain 8.30 a. m. Ceased, 5 p.m.
Severn River	9	50	72	60	41	29.09	29.00	29.95	E.	S.	0.	1	1	0	C.	C.	C.	
Severn River, Lat. 53° 30′	10	56	64	58	52	29.09	29.09	28.08	E.	E.	E.	2	2	1	C.	9 K.S.	R.	Began to rain 8 p.m.
Severn River	11	58	69	61	42	28.92	28.93	28.89	E.	0.	0.	1	0	0	C.	3 K.S.	C.	Ceased rain during night.
Severn River	12	62	71	64	58	28.81	28.79	28.94	E.	E.	E.	1	3	2	R.	R.	8 K.S.	Began to rain 6.30 a. m. Ceased 4.30 p.m.
Severn River	13	61	74	64	56	28.98	29.10	29.19	S.E.	E.	E.	1	2	0	C.	4 K S.	5 K.S.	
Severn River	14	64	71	68	61	29.18	29.14	29.00	E.	S.W.	S.W.	1	1	1	5 K.S.	4 K.S.	9 K.S.	Light showers between 7 and 8 o'clock p.m.
Severn River	15	65	58	46	62	28.94	29.04	29.09	S.W.	S.W.	N.	1	3	4	9 K.S.	8 K.S.	5 K.S.	Light thunder storms during night.
Severn River, Lat. 53° 54′	16	37	60	59	30	29.14	29.24	29.36	N.	N.	0.	3	2	0	9 K.S.	0	0	Light frost.
Severn Lake	17	47	66	61	42	29.32	29.32	29.19	S.E.	S.E.	0.	2	1	0	C.	C.	C.	
Trout Lake Portage	18	54	59	50	38	29.00	28.95	28.89	S.W.	E.	E.	2	2	2	10 K.S.	R.	R.	Began to rain 9.30 a.m. Wind changed to E.
Trout Lake Portage	19	54	60	53	40	29.00	29.03	29.08	N.	N.E.	N.E.	2	2	2	10 K.S.	5 K.S.	8 K.S.	Heavy showers between 3 and 4 p.m.
Trout Lake, 52° 54′	20	53	61	59	35	29.08	29.09	29.19	S.	S.	0.	1	1	0	9 K.S.	8 K.S.	C.	Light showers during forenoon.
Trout Lake	21	59	64	56	48	29.09	29.18	29.05	N.E.	N.E.	N.E.	2	2	2	R.	7 K.S.	R.	Heavy showers all day.
Trout Lake	22	49	71	68	36	29.11	29.14	29.12	S.W.	S.W.	0.	1	1	0	C.	C.	C.	
Fawn River	23	64	74	68	58	29.09	29.05	29.04	S.W.	S.W.	0.	2	2	0	9 K.S.	8 K.S.	C.	
Fawn River	24	68	64	59	61	28.98	28.91	28.85	S.W.	S.W.	E.	1	1	2	9 K.S.	3 K.S.	R.	Heavy thunder storm between 7.30 and 1 a.m.
Fawn River	25	54	68	61	46	29.07	29.06	29.11	N.	N.	0.	2	2	0	C.	C.	C.	Light showers during night.
Fawn River	26	61	65	59	54	28.99	28 97	28 94	S.W.	S.W.	0.	1	1	0	3 K.S.	R.	4 K.S.	Heavy thunder showers between 11 a.m. and 8 p.m.
Fawn River	27	58	64	58	44	28.99	27.04	27.14	S.W.	N.W.	N.W.	3	2	1	8 K.S.	7 K.S.	9 K.S.	Showers during night.

PLACE.	Date.	Thermometer.			Minimum.	Barometer.			Wind. Direction.			Wind. Force.			Weather.			REMARKS.
	July.	7	2	9		7	2	9	7	2	9	7	2	9	7	2	9	
Fawn River	28	48	61	57	36	29.18	29.10	29.08	N.W.	N.W.	N.W.	2	2	2	3 K.S.	5 K.S.	R.	Showers during afternoon. Rain all night.
Fawn River	29	54	62	58	43	29.08	29.4	29.09	N.W.	N.	N.	2	2	2	R.	9 K.S.	R.	Light showers during the day. Wind very changeable, but from the north the greater portion of the time.
Fawn River	30	60	68	60	45	29.22	29.27	29.41	N.W.	N.	N.	2	2	2	10 S.	10 S.	10 S.	Cloudy all day with light showers.
Fawn River	31	60	64	59	53	29.30	29.27	29.43	N.	N.	N.	2	2	2	10 S.	10 S.	10 S.	Cloudy all day with occasional light showers.
	Aug.																	
Fawn River	1	64	68	62	55	29.09	29.05	29.12	N.	N.	N.	2	2	2	10 S.	10 S.	10 S.	Cloudy all day with showers.
Fawn River	2	60	64	58	51	29.38	29.40	29.37	N.	N.	0.	1	1	0	10 S.	10 S.	C.	Cleared at 6 p.m.
Fawn River, Lat. 55° 07'	3	54	67	64	48	29.69	29.72	29.68	N.	N.	0.	1	1	0	C.	C.	C.	
Severn River	4	63	68	61	54	29.70	29.68	29.65	S.	S.	S.	1	1	1	4 K.S.	5 K.S.	8 K.S.	
Severn River	5	59	63	58	50	29.67	29.64	29.63	S.	S.W.	N.	1	1	3	C.	4 K.S.	R.	Heavy rain began 4 p.m.
Severn River	6	61	64	60	51	29.69	29.70	29.68	S.	S.	N.	1	2	3	4 K.S.	10 S.	10 S.	Stopped raining 6 a. m. Showers during afternoon.
Fort Severn, Lat. 55° 58'	7	54	61	51	48	29.81	29.86	29.88	N.	N.	0.	2	2	0	8 K.S.	10 S.	C.	
Fort Severn	8	58	66	60	50	29.89	29.87	29.80	S.W.	S.W.	W.	1	1	1	C.	C.	C.	
Fort Severn	9	48	67	60	32	29.91	29.93	29.98	S.W.	S.W.	0.	1	1	0	C.	4 K.S.	6 K.S.	
Hudson Bay	10	60	64	48	49	29 88	29 87	29.86	S.W.	S.W.	W.	1	1	2	3 K.S.	C.	C.	
Hudson Bay	11	49	51	48	35	29.86	29 84	29.82	W.	W.	N.	2	1	3	5 K.S.	R.	C.	Showers during day.
Hudson Bay	12	....	....	....	40	29.81	29.68	29.67	N.W.	N.W	N.W.	4	5	5	R.	8 K S.	9 K.S.	Heavy rain all night and until noon.
Hudson Bay	13	....	....	....	39	29.82	29.89	29.91	N.W.	N.W.	N.W.	5	5	5	8 K.S.	9 K.S.	7 K.S.	Light showers all day.
Hudson Bay	14	....	....	..	41	30.07	30.08	30.07	S.E.	S.E.	S.E.	4	3	2	C.	C.	C.	
Hudson Bay	15	....	....	....	35	30.00	30.00	30.01	S.W.	N.	N.	1	1	1	F.	C.	C.	
Hudson Bay	16	....	....	....	38	29.97	29.93	29 87	N.W.	W.	W.	1	2	2	C.	C.	C.	
Hudson Bay	17	....	....	....	48	29.87	29.81	29.85	N.W.	N.W.	N.W.	1	3	4	10 S.	7 K.S.	8 K.S	Heavy rain during the fornoon.
Hudson Bay	18	....	....	....	50	29.89	29 91	29.94	S.	S.	S.	1	1	2	F.	C.	C.	
Hudson Bay	19	....	....	....	55	29.98	29.91	29.92	W.	S.W.	S.W.	2	1	1	Smoky.	5 K.S.	5 K.S.	
Hudson Bay	20	....	....	....	50	29 89	29.85	29.74	N.	E.	E.	1	1	2	F.	5 K.S.	3 K.S.	
Hudson Bay	21	....	....	...	48	29 58	29 75	29.77	E.	E.	E.	3	2	3	R.	3 K.S.	8 K.S.	Heavy showers during night and until 10 a.m.
Hudson Bay	22	...	....	...	51	29.74	29.75	29.78	E.	S.E.	S.E.	3	2	1	8 K.S.	5 K.S.	C.	
York Factory, Lat. 57°	23	....	..	....	54	29.88	29.88	29.82	W.	W.	W.	1	1	1	F.	4 K.S.	C.	
York Factory	24	....	....	....	36	28.81	29.76	29.7.	N.	N,W.	N.W.	1	2	1	Smoky.	Smoky.	Smoky.	

York Factory	25	....	....	....	38	29.49	29.53	29.67	N.E.	N.E.	E.	2	1	1	Smoky.	Smoky.	Smoky.	
York Factory	26	....	....	....	41	29.71	29.73	29.67	N.	N.	W.	2	2	3	Smoky.	Smoky.	R.	Began to rain 8 p.m.
Hayes River	27	....	....	....	48	29.71	29.77	29.79	W.	W.	W.	1	1	1	R.	8 K.S.	4 K.S.	Ceased raining 8 a.m.
Hayes River	28	....	....	....	43	29.77	29.58	29.38	W.	S.W.	S.W.	1	2	2	R.	Smoky.	Smoky.	Light rains at intervals during day.
Steel River	29	....	....	...	51	29.92	29.18	29.11	S.W.	S.W.	S.W.	1	1	1	Smoky.	Smoky	Smoky.	Light rainr at intervals during day.
Steel River	30	....	....	....	33	29.09	29.11	29.23	N.	N.W.	N.W.	1	2	2	Smoky.	R.	R.	Began to rain at 8 p.m.
Hill River	31	....	....	....	35	29.48	29.58	29.74	N.W.	N.W.	N.	2	2	2	9 K.S.	9 K.S.	5 K.S.	Ceased raining 5 a.m.
	Sept.																	
Hill River	1	....	....	....	30	29.48	29.59	29.74	0	N.W.	N.W.	0	1	1	R.	R.	4 K.S.	Light rain from 2 a.m. to 9 p.m.
Hill River	2	...	....	....	22	29.91	29.89	29.81	E.	S.W.	0	1	1	0	C.	C.	C.	
Hill River	3	....	....	....	34	29.59	29.55	29.38	0	S.W.	S.W.	0	1	1	Smoky.	Smoky.	Smoky.	
Hill River	4	....	....	....	54	28.17	29.24	29.27	W.	W.	W.	1	1	1	R.	8 K.S.	7 K.S.	Began to rain during night. Ceased raining 1 p.m.
Hill River	5	....	....	....	36	29.78	29.80	29.84	N.	N.	N.	2	2	2	9 K.S.	10 K.S.	8 K.S.	Cloudy and threatening but no rain.
Swampy Lake	6	....	....	....	52	29.82	29.79	29.74	E.	E.	E.	2	2	1	10 S.	10 S.	R.	Began to hail 3 p.m. Changed to rain 4 p.m.
Knee Lake	7	....	....	....	51	29.58	29.54	29.48	S.	N.W.	N.W.	1	2	1	R.	R.	C.	Stopped raining 5.30 p.m.
Knee Lake	8	....	....	....	27	29.58	29.37	29.19	W.	S.W.	S.W.	1	2	2	C.	6 K.S.	5 K.S.	
Knee Lake	9	....	....	....	55	28.88	28.91	28.98	S.W.	S.W.	N.W.	1	2	2	5 K.S.	10 S.	R.	Light showers during night. Began to rain 5 p.m.
Trout River	10	....	....	....	38	29.18	29.17	29.15	N.W.	N.W.	N.W.	2	2	2	10 S.	10 S.	10 S.	Rain changed to snow during night. Cloudy all day.
Oxford House, lat. 53° 45'	11	....	....	...	37	29.17	29.12	29.07	N.W.	W.	W.	2	4	4	C.	8 K.S	7 K.S.	Flurries of snow last night and to-day.
Oxford House	12	....	....	....	28	29.02	28.88	28.97	W.	W.	W.	5	5	5	6 K.S.	8 K.S.	4 K.S.	Flurries of snow during day.
Oxford House	13	....	....	....	26	28.78	28.88	28.97	W.	W.	N.W.	5	4	2	6 K.S.	4 K.S.	5 K.S.	
Oxford Lake	14	....	....	....	27	29.17	29.16	29.05	W.	W.	W.	1	2	1	C.	6 K.S.	10 S.	
Side Pine	15	....	....	....	34	28.97	28.97	28.92	E.	E.	E.	2	2	2	R.	C.	R.	Began to rain during night
Robinson's Portage	16	...	....	....	36	28.88	28.91	28.98	E.	N.	N.	2	2	1	Snow.	R.	8 K S.	Rain or snow all night. Rain changed to snow 8 a m.
Height of Land	17	....	....	....	31	29.06	29.09	29.11	N.	N.W.	0	1	1	0	Snow.	Snow.	5 K.S.	Light snow all day.
Hairy Lake	18	....	....	..	20	29.24	29.29	29.34	N.W.	N.W.	N.W.	1	1	1	Snow.	Snow.	4 K.S.	" " " "
Nelson River	19	....	..	....	26	29.23	29.15	29.14	S.W.	S.W.	S.W.	1	1	1	4 K.S.	Snow.	10 S.	Showers at intervals during day.
Norway House, Lat. 85° 50	20	....	....	....	24	29.11	29.07	28.91	S.W.	S.W.	S.W.	1	2	2	8 K.S.	10 S.	R.	Showers in afternoon. Heavy rain began 5 p.m.
Norway House	21	....	....	....	45	29.01	29.09	29.21	E.	E.	E.	1	1	1	10 S	10 S.	5 K.S.	Rain began 6 a.m.
Norway House	22	....	....	....	38	29.27	26.21	29.29	E.	S.E.	S.E.	1	1	1	4 K.S.	3 K.S.	10 S.	Showers in afternoon.
Lake Winnipeg	23	....	....	....	41	29.21	29.15	28.88	S.	S.	S.	3	2	3	10 S.	10 S.	10 S.	Showers during day.
Lake Winnipeg	24	....	....	....	38	28.84	28.91	28.95	S.W.	S W.	S.W.	2	2	1	C.	4 K.S.	C.	
Montreal Point	25	....	....	....	33	29.08	28.96	28.88	S.E.	S.	S.	1	2	4	C.	C.	C.	
Montreal Point	26	....	....	....	44	28.81	28.76	28.73	S.W.	S.W.	S.W.	4	4	5	10 S.	10 S.	10 S.	Showers during day,
Montreal Point	27	....	....	....	38	28.69	27.67	27.71	W.	W.	N.W.	5	5	5	10 S.	10 S.	10 S.	Showers of snow, sleet and rain during day.
Little Black River	28	....	....	....	34	28.91	28.93	29.08	N.	N.	N.	3	2	3	10 S.	10 S.	10 S.	Very cloudy all day.
Poplar River	29	....	....	....	26	28.83	28.91	28.97	N.	N.	N.	2	2	3	Snow.	Snow.	Snow.	About 4 in. snow this a.m. Stopped snowing 4 p.m.

PLACE.	Date.	Thermometer.	Minimum.	Barometer.			Wind.						Weather.			REMARKS.
							Direction.			Force.						
	Sept.			7	2	9	7	2	9	7	2	9	7	2	9	
Poplar River	30	....	24	29.08	29.12	29.18	N.	N.W.	N.W.	4	3	2	10 S.	5 K.S.	C.	
	Oct.															
Stony Point	1	....	26	29.34	29.19	29.08	E.	S.W.	S.W.	1	2	2	3 K.S.	C.	C.	
Leaf River	2	....	33	28.98	29.08	29.21	S.E.	S.	0	2	2	2	4 K.S.	C.	C.	
Berens River	3	....	35	29.15	29.19	29.23	N.	N.	0	1	2	0	C.	C.	C.	
Berens River	4	....	41	29.23	29.19	29.16	S.E.	S.	S.	1	2	1	C.	5 K.S.	3 K.S.	
Berens River	5	....	56	29.13	29.14	29.16	N.E.	N.E.	N.E.	2	2	2	8 K.S.	5 K.S.	C.	
Berens River	6	....	50	29.17	29.15	29.13	N.E.	N.E.	N.E.	1	1	1	C.	C.	C.	
Berens River	7	....	46	29.11	29.09	29.14	S.	S.	S.	2	2	2	Hazy.	Hazy.	Hazy.	
Berens River	8	....	43	29.19	29.17	29.21	0	0	0	0	0	0	10 S.	10 S.	4 K.S.	Showers in forenoon.
Berens River	9	....	46	29.06	29.00	28.88	E.	E.	E.	3	3	2	R.	R.	R.	Began to rain about 8 a.m.
Berens River	10	....	41	28.85	28.99	29.07	N.	N.	N.	1	3	2	10 S.	6 K.S.	8 K.S.	
Berens River	11	.. ..	36	29.10	29.16	29.20	0	S.	S.	0	1	1	9 K.S.	5 K.S.	6 K.S.	
Berens River	12	....	41	29.38	29.31	29.15	S.E.	S.E.	S.	2	2	2	C.	3 K.S.	5 K.S.	
Dog Head	13	....	38	29.09	29.04	29.02	S.W.	N.W.	N.W.	1	1	2	R.	R.	R.	Rain all day.
Selkirk	14	....	34	29.01	29.14	29.38	N.E.	N.E.	N.E.	2	2	2	R.	S.	S.	Rain or sleet all day.